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January 1926

Test 129: Hart-Parr 12-24

Tractor Museum

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 129

Dates of test: October 18th to 28th, 1926

Name, model and rating of tractor: Hart-Parr 12-24

Serial No. Engine: 37102 Serial No. Chassis: 37102

Manufacturer: Hart-Parr Co., Charles City, Iowa

Tractor Equipment used: Robt. Bosch "ZU4/2" Mag., Stromberg "MB3" Carb.

Style and dimensions of wheel lugs: Spade 3-1/2" high, 6" Ext. Rims.

BRAKE HORSE POWER TESTS

H. P. Dev.	: Crank : Shaft : Speed : R.P.M. :	Time : of : Test : Min. :	Fuel Consumption : Kind : of : fuel :	Gals. : H. P. : per : gal. :	Water consumption : Gals. : per hour :	Temp. Deg. : F. * :	Average Humidity % :	Height of Barometer In Inches :

RATED LOAD TEST

24.09 : 852 : 120 : Dist.: 2.381 : 10.12 : 0.49 : *** : 0.49 : 198 : 73 : 31 : 28.77

** VARYING LOAD TEST

24.06	: 849	: 10	:	:	:	:	:	:	:	:	:
24.27	: 849.5	: 10	:	:	:	:	:	:	:	:	:
0.98	: 889	: 10	:	:	:	:	:	:	:	:	:
6.25	: 878.5	: 10	:	:	:	:	:	:	:	:	:
12.31	: 866	: 10	:	:	:	:	:	:	:	:	:
16.41	: 865	: 10	:	:	:	:	:	:	:	:	:
14.55	: 866	: 60	:	Dist.:	1.866	: 7.80	: 0.53	: ***	: 0.53	: 195	: 66 : 54 : 28.52

MAXIMUM LOAD TEST

31.99 : 856 : 60 : Dist.: 3.904 : 8.19 : 2.36 : *** : 2.36 : 179 : 65 : 46 : 28.81

HALF LOAD TEST

12.48 : 877 : 60 : Dist.: 1.654 : 7.55 : 0.43 : *** : 0.43 : 205 : 72 : 54 : 28.51

* Taken in discharge line from engine.

** The last line is the average for the hour.

*** The water for the fuel mixture was taken from the radiator.

REMARKS: The distillate used as fuel in these tests weighed 6.88 pounds per gallon.

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DRAWBAR HORSE POWER TESTS

	: Draw	: Speed	: Crank	: Slip	: Fuel Consumption	: Water	: Temp. Deg. F.					
H. P.:	Bar	Miles	Shaft	on	: Kind : Amt. : H. P. :	Used	: Cooling- :	Air	: Average	: Height of		
Dev. :	Pull	Per	Speed	Drive	: Used : Per : Hrs. :	Per	: Fluid :		: Humidity	: Barometer		
	: Pounds	: Hour	: R.P.M.	: Wheels :	: Hour : Per :	Hour	: *		: %	: In	: Inches	
	:	:	:	%	: Gals. : Gal. :	Gals.	:	:	:	:	:	

RATED LOAD TEST. TEN HOURS

12.11 : 1274 : 3.57 : 848 : 6.26 : Dist.: 2.633 : 4.60 : 0.35 : 172 : 59 : 27 : 27.72

MAXIMUM LOAD TEST

20.43 : 2192.5 : 3.495 : 848 : 8.37 : Dist.: -- NOT RECORDED -- : 177 : 84 : 44 : 28.45

21.775 : 2950 : 2.77 : 857 : 9.925 : Dist.: -- NOT RECORDED -- : 187 : 77 : 44 : 28.43

* Taken in discharge line from engine.

REMARKS: The rated load and first maximum was run in high gear, the second maximum test was run in low gear.
The distance advanced by the tractor without load on level ground for several complete revolutions of the drive wheels was taken as a basis for calculating the slippage.

OIL CONSUMPTION:

During the complete test consisting of about 34 hours running the following oil was used:
For the engine, 7-3/8 gallons of Mobiloil "B"
For the transmission, none added gallons of Light transmission oil

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REPAIRS AND ADJUSTMENTS

During the varying load brake test both spark plugs were replaced with new plugs, one had a cracked porcelain and the other defective gaskets. During the low gear maximum drawbar test the gears slipped out of mesh twice. It was necessary to improvise a method of holding the gear shift lever in place. The low gear train of gears was burred slightly due to the gears slipping out of mesh.

No other repairs or adjustments were necessary during this test. At the end of the test the tractor was in good running order except as noted above and there were no indications of undue wear nor of any weakness which might require early repair.

BRIEF SPECIFICATIONS

Motor: Own, two cylinder, horizontal, valve-in-head, mounted crankshaft crosswise. Bore 5-3/4", stroke 6-1/2", rated speed 850 R.P.M.

Magneto: Robert Bosch "ZU4/2". Carburetor: Stromberg "MB3".

Air Cleaner: Donaldson dry centrifugal type.

Governor: Own, fly ball type.

Lubricator: Madison-Kipp.

Chassis: Four wheels, two drivers, enclosed gear drive, dry plate clutch.

Advertised speeds: Low 2-2/3 miles per hour, High 3-1/3 miles per hour, Reverse 2-1/4 miles per hour.

Total weight as tested (with operator) 5440 pounds.

REMARKS

In the advertising literature submitted with application for test of this tractor we find some claims and statements which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 129.

Lew Wallace
Engineer-in-Charge

Oscar W. Sjooren

E. E. Brackett

C. W. Smith
Board of Tractor Test Engineers